

# PAARAgraphs

Since 1937

Monthly Newsletter for the Palo Alto Amateur Radio Association, Inc.



## Calendar

June 1, **PAARA Spring Picnic** 11am-3pm  
Ron & Helga Panton home,

June 7, **PAARA Meeting**, 7:30  
Menlo Park Recreation Center  
700 Alma Street, Menlo Park 7:30-9:30 PM

June 12, **PAARA Board Meeting**, 7:30  
Red Cross Blvd. 400 Mitchell Ln., Palo Alto,

June 22 & 23, **Field Day**

July 12, **PAARA Meeting**, 7:30

July 17, **PAARA Board Meeting**, 7:30



## Program

June 7, 1996 **Speaker:**  
**Ray Gaschk, KD6BLS**

*"Antenna Design"*

**IT'S  
ALL  
YOURS!**



**DX** Dx is not being heard here on 10 & 15 meters. I see on the packet screen that DX is coming thru on 80, 40, 20, & 17 meters. My 15 meter New Orleans sked is still a washout, but I do hear a few Spanish speaking stations. The trans-equatorial path is still working.

I hope conditions will open for World Radio Teams. **Dan Curry** tells me that the FCC

is issuing One by One calls for this contest only. We hope to see a lot of you at the 9th Annual PAARA Picnic. Details elsewhere in this issue, but the date is June 1st at W6VG Qth.



**VE** April 20, 1996, was a very slow day for exams. The crew was minimal also, five of us being present at the Legion Hall in Redwood City, on El Camino Real. **Joe Horne Sr. KB6OWG** was of course in charge, with **Bill Sooman WB6UVO** handling the CW tests. Helpers were: **Dan Curry W6STW**, **Gene Irazarrry KK6LO**, & **Ron Panton W6VG**. Both of the two applicants for extra class passed their

exams. Big smiles from both.

**Ron, W6VG**

*Silent Key*  
**Gerard Wagstaffe, W6NIR**  
May 12, 1996

see page 49-50

## Miscellaneous Dates

### Flea Market at Foothill (6AM - 2PM)

Mar 9...Palo Alto Chapter, American Red Cross

Apr 13...Palo Alto Amateur Radio Association (PAARA)

May 11...Perham Foundation

June 8...Santa Clara County Amateur Radio Association (SCCARA)

July 13...South Peninsula Emergency Communication System (SPECS)

Aug 10...Electronics Museum Amateur Radio Club (EMARC)

Sept 14...West Valley Amateur Radio Association (WVARA)

### PAARA Palo Alto Amateur Radio Association

meets 1st Friday 7:30 each month, Net 145.230 each Monday 8:30,  
contact Jerry Tucker WA6LNV 415-961-3266.

### EMARC Electronics Museum Amateur Radio Club

Meets 4th Friday 7:30 each month,  
contact Sheldon Edelman 415-858-2176.

### NCDXC Northern California DX Club

Meets 2nd Friday each month, repeater for member info 147.360, each  
Thursday 8:00PM, contact John Troster W6ISQ 415-854-3939.

### NorCalQRP Northern California QRP Club

Meets 1st Sunday each month, contact Jim Cates 3241 Eastwood Rd.,  
Sacramento, CA 95821.

### Perham Foundation, contact Sy Stein WA6ROM 408-734-4453

### SPECS Southern Peninsula Emergency Communication System

Meets each Monday 8:00PM on Net 145.27, 224.36, 440.80 MHz  
contact Mike Hastings KB6LCJ, 408-243-6745 or 408-249-6909.

### SCARES South County Amateur Radio Emergency Service

Meets 3rd Thursday 7:30 each month, San Carlos City Hall.  
Net is on 144.45 & 444.50 (PL-100) 7:30 Monday evenings.  
contact Dick Collins K6ANN 415-593-8952

### Disaster Services, Palo Alto Chapter, American Red Cross

Meets 3rd Wed. each month 7:30PM, HF, packet, BBS, ATV,  
OSCAR Gateway, NASA satellite,  
contact Ruth Claypool 415-688-0423.

### VE Exams, 3rd Saturday each month, 11AM

American Legion Hall, 651 El Camino Real, R.C.

## Palo Alto Amateur Radio Association, Inc.

PO Box 911

Menlo Park, CA 94026

President.....Bill Rausch, AA6PA.....(408) 637-0622  
VP/ Program Director...Vic Black, Jr., AB6SO.....(415) 366-0636  
Secretary.....To Be Filled  
Corporate Secretary.....Kit Kohlmoos, W6ISO.....(415) 366 7813  
Treasurer.....Dave Bailey, WS6W.....(408) 730-5215  
Trustee/Property/Badges..Fred Canham, K6YT.....(415) 948-9238  
ARES Officer.....Lily Anne Hillis, N6PGM...(415) 325-5484  
Club Historian.....Steve Stuntz, K6FS.....(415) 322-4952

### Board of Directors

John Buonocore, KD6ZL (415) 366 1658 '97  
Fred Canham, K6YT (415) 948 9238 '97  
Lily Anne Hillis, N6PGM (415) 325 5484 '96  
Kit Kohlmoos, W6ISO (415) 366 7813 '96  
Bill Smith, KE6CHQ (415) 366 9173 '96  
Rich Stiebel, W6APZ (415) 494 0128 '96  
Steve Stuntz, K6FS (415) 322 4952 '97

(see "Calendar" for Board meeting times, visitors welcome)

### PAARAgaphs Staff

Editor.....Wally Porter, .....K6URO.....(415) 494 7038  
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Submit material for PAARAgaphs by the 15th

## PAARAgaphs Ad Rates

PAARAgaphs accepts paid advertisements from non-members.  
(short personal ads remain free for members in good standing).

All ad rates listed are per issue only.

1. Not for profit ads by association members for ham-related items and wants. No cost for business card size ads (additional space at \$2.50 per business card size).
2. For Profit organizations and/or individuals: \$5-business card size, \$25-half page, \$50 full page or back cover.

These fees may be reduced or waived in exchange for a valuable consideration that is given to the Association or its general membership. Such consideration must be in addition to any existing arrangements with the association.

The PAARAgaphs editors reserve the right to reject any ad deemed to be not in the best interest of the Association. All fees are for "scanner-ready" copy or text-only ads.

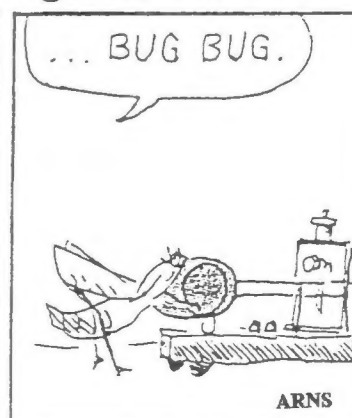
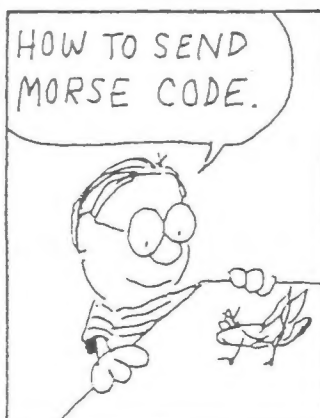
## Field Day June 22-23



## PAARA Picnic June 1



## ELMER



ARNS

By Rich Regent, K9GDF

## The Board Minutes (May 8, Board Meeting)

Notes courtesy Kit, W6ISO

Present: Bill Rausch, AA6PA\*, President  
 Dave Bailey, WS6W Vic Black, AB6SO  
 John Buonocore, KD6ZL\* Fred Canham, K6YT\*  
 Kit Kohlmoos, W6ISO\* Steve Stuntz, K6FS\*  
 Wally Porter, K6URO

\*Board member

**Treasurer Report:** received (listed elsewhere in PAARAgaphs, except Savings & Checking balances)

### Old Business:

1. Flea Market - success.
2. Picnic. Bill & Dave working on it. Progressing OK.
3. Jerry Tucker selected as Field Day Chair. Bill in charge of Satellite & VHF station.
4. PAARA FD site offered to WRTC. Surveys in process. Decisions by WRTC pending.
5. Motion passed: Fred will purchase TV&VCR, (abt \$250)
6. Classes:- no progress

### New Business:

1. Ampex not available for PAARA Auction. Possibilities: Loral, Tandem, Lockheed or Sun.
2. Motion passed: Pay the City of Menlo Park for six months rent.
3. Attendance discussed. work on publicity, club meetings, other...

## PAARA Picnic June 1



## TO PL OR NOT TO PL, THAT IS THE QUESTION!

by Rich, W6APZ

In case of a simulated emergency test (SET) or "minor" local emergency, it is relatively easy for a control operator to disable the PL on the repeater to enable users of older equipment to access the repeater. In a real emergency, or especially in an area-wide emergency, the PL may be necessary to minimize interference from the Sacramento repeater. In addition, the control operators may or may not be available (alive) to turn off the PL.

Are we really fooling ourselves when we count stations without PL as being available for emergency communications? With the Automatic Control Operator (ACO) operational on the repeater, it is no problem to accommodate the various nets that have asked to have the PL off for their members' check ins. But in an

emergency, these stations might not be able to access the repeater.

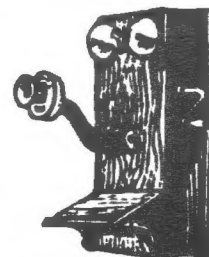
Might the answer be for each club to encourage (read that "help") their members with older rigs retrofit them with an inexpensive subaudible-tone board (< \$30) and a dip switch which would enable them to access any repeater that has PL? This could be done as a group activity for each club at a regular meeting or at a special meeting set up for that purpose. Club members who have schematics for the older radios could make copies and provide the schematics to a technical group that would assist less technical club members in modifying their rigs. Schematics could be shared among clubs in the Bay Area to minimize the cost. Ensuring that all radios had PL would provide more fun for the individual ham by opening up more repeaters for their use, and it would be a real aid to emergency communications.

## TREASURER REPORT

Dave Bailey, WS6W

Revenues '96	FEB	MAR	APR	96 Total
Dues	174	162	36	510
Flea Market	0	0	6036.28	6036.28
AMPEX Auction	0	0	0	0
Advertisements	0	0	600	600
Holiday Dinner	0	0	0	0
Total Revenues	174	162	6672.28	7146.28
Expenditures '96				
Stamps/Envelopes	0	32	0	32
DMV	0	0	0	43
State of CA	0	0	0	10
City of Menlo Park	0	0	0	150
Speaker's Dinner	24	22	9	55
Flea Market	0	0	937.24	937.24
AMPEX Auction	0	0	0	0
Meeting Refreshments	6.34	12.41	8.66	43.07
PAARAgaphs	189.37	205.23	199.24	796.93
Picnic	0	0	0	0
Field Day	0	0	0	0
Holiday Dinner	0	0	0	0
Misc.	0	0	35	66
Total Expenditures	219.71	271.64	1189.14	2133.24

## Field Day June 22-23



## PROGRAM NOTES:



### PAARA Meeting, May 3, 1996

*Thanks to Steve Stuntz, K6FS*

Our program for the May meeting turned out to be a double-header: besides the speaker announced in April PAARAgaphs, an unanticipated presentation regarding construction of microwave transmitter/receiver circuit-boards was given by **Stuart Rumley, KI6QP**.

The featured speaker was **Dr. Keitaro "Kei" Sekine, W6/JA1BLV**, Professor of Electronics, Science University of Tokyo. He is a frequent visitor to the Bay Area and is well known for his DX activities (300+ multimode, confirmed over 250 countries logged on Baudot RTTY).

Kei opened his remarks by briefly reviewing the status of amateur radio in Japan, noting that as of 1994 there were 1,325,000 licensed stations, as distinct from number of licensed operators since operator and station licenses are issued separately in JA, unlike US FCC practice of issuing both to an applicant successfully completing examination elements required for each class of license. Kei pointed out salient features of Japan's four classes of operator licenses (parentheses contain number of licensees in each class at the end of 1995):

*First Class* (16,376) - all privileges, 500 watts maximum power output; required code speed: 60 characters per minute.

*Second Class* (65,920) - output power limited to 200 watts; required code speed: 45 characters per minute.

*Third Class* (131,865) - power output limited to 50 watts; required code speed : 25 characters per minute; all mode operation permitted on all bands except 10 and 14 MHz.

*Fourth Class* (2,528,726) - no code requirement; operation limited to 10 watts on HF bands, 20 watts on VHF/UHF; CW operation not permitted; may work all bands except 1.9, 10, 14, and 18 MHz.

The main thrust of Kei's presentation dealt with present day VHF/UHF conditions - the present 144-146 MHz band (equivalent to US 2-meter band) is so crowded throughout the country that repeater operation is impractical; that 430-440 MHz is extremely crowded in major population areas (e.g., Tokyo, Osaka, Kyoto), but

that in less dense areas there are successful repeater, packet and satellite networks. However, the 1260-1300 MHz band is sufficiently uncrowded at this time to permit uncluttered communication on FM repeaters, packet networks, satellite and ATV, even in major metropolitan areas. There is very little operation in the 2400-2450 MHz band throughout Japan due in large part to scarcity of commercially manufactured ham gear.

At this time, official UHF records stand at 1300 km (800 miles) for 1200MHz and 940 km (580 miles) for 2400 MHz, both on FM.

Against this background, Dr. Sekine presented some of the technical problems confronting operations on UHF: compared to VHF (2 meter) propagation, there is an inherent path-loss of 19 dB at 1200 MHz, increasing to 26 dB at 2400 MHz. To emphasize some practical limitations, he cited transmission line losses over typical RG-8A/U coax: 3.5 db/100 meters @ 30 MHz, as compared against 10.5 db/100 meters @ 200 MHz, and 45 db/100 meters @ 2000 MHz. (recommendation: use UHF-grade coax, Belden 9913 for example, or "hard line." Best solution: place the transmitter/receiver right at the antenna feed point, minimize line loss by eliminating feed line altogether.)

He then proceeded to demonstrate, by viewgraph, the following propagation characteristics of 1200/2400 MHz, over paths: direct line-of sight, inversion-layer ducting/fading, tropospheric diffraction ("tropo-scatter"), "knife-edge" diffraction, and spheric diffraction due to normal earth-surface curvature.

Kei then summarized by pointing out some of the significant differences between 2400, 800, and 435 MHz as to fading encountered during mobile operation.



from the February 1995 ARC of El Cajon (Calif.) "Counterpoise"—W6CCM, Editor

ARNS

<sup>1</sup>PAARA-Palo Alto Amateur Radio Association-P.O. Box 911, Menlo Park, California 94026-0911

Club meetings are on the first Friday of each month, 7:30pm at the Menlo Park Recreation Center, 700 Alma Street, Menlo Park, CA. • Radio NET every Monday evening, at 8:30pm, on the 145.230-600 repeater MHz, PL tone off. • Membership in PAARA is \$6.00 per calendar year which includes a subscription to PAARAgaphs. • Make payment to the Palo Alto Amateur Radio Association. Permission is hereby granted to reprint from this publication with appropriate source credit.

continued from page 48

Propagation graphs presented by Dr. Sekine with the May program.

Propagation Feature of 1200/2400 MHz

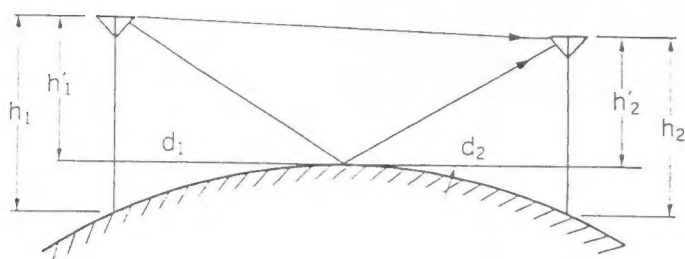
No Ionosphere Propagation.

Line-of-sight Propagation

$$d_1 = 4.1\sqrt{h_1}$$

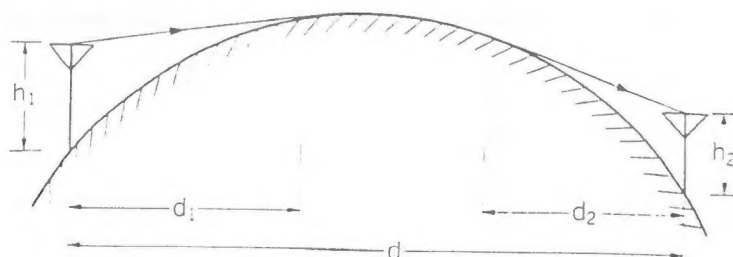
where  $h$  : height of antenna in meter

$d$  : line-of-sight distance in kilo meter

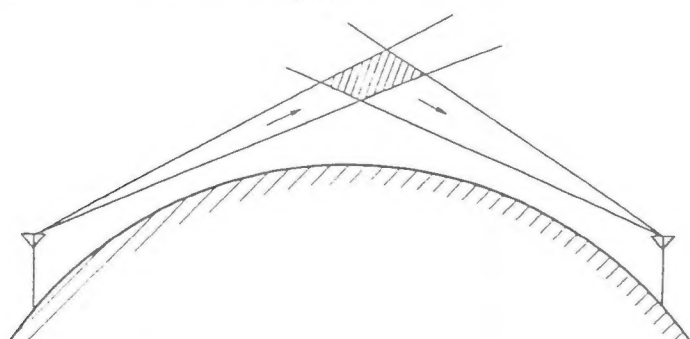


example 20 meter height each antenna,  
distance = 36.2 km ( 22 miles )

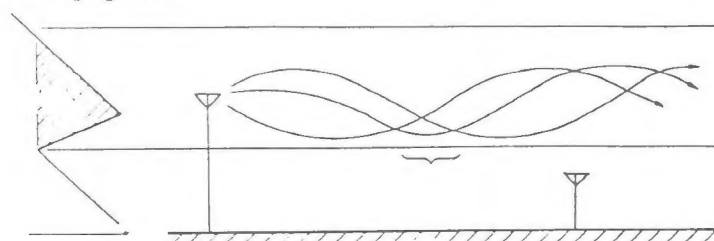
Sphere Diffraction Propagation



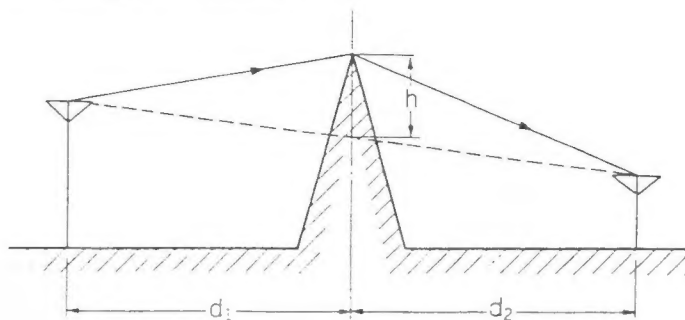
Tropospheric Diffraction Propagation



Duct Propagation



knife edge diffraction



## Gerard Wagstaffe

Gerard Wagstaffe was born on August 20, 1917 in Victoria, British Columbia, son of Harold and Margareta Wagstaffe. He graduated from the University of Santa Clara in 1937 and from Santa Clara Law School in 1940. He was a San Mateo County lawyer, practicing until his death.

He was general counsel for the Sequoia Hospital District since its incorporation in 1949. He was a naval officer during World War II, serving in the Pacific Theatre in New Caledonia. Gerard was also an avid yachtsman who served as secretary for the Palo Alto Yacht Club for over 25 years. Gerard had a love for ham radios and was an officer of the Palo Alto Amateur Radio Association for many years.

He is survived by his loving wife of 47 years, Jean and a brother William of Menlo Park and one sister, Sister Clare of Saint Mary's College in Moraga. Gerard is also survived by six children and their spouses: John and Victoria of Apple Valley, Steve and Sue, Dennis and Cathy, and Gerry of Menlo Park, James and Karen of Burlingame and Raymond and Jacque of Solvang. Gerard will be missed by his 13 surviving grandchildren: Tim, Joe, Michael, Christina, Trevor, Emily, Matthew, Elizabeth, Megan, Daniel, Christopher, Jeffrey, and David and was preceded in death by his granddaughter, Jennifer.

Gerard died May 12, 1996 of cancer at the age of 78. He will be missed by all who knew and loved him.

contributed by Paul Thekan, N6FEG



## Gerry Wagstaffe, W6NIR 1917 - 1996

I've known **Gerry Wagstaffe W6NIR** since I attended kindergarten with his son in the late 1950's. Ours was a dear relationship that has grown and evolved and so enriched my life over the next nearly four decades. Gerry was a fellow ham radio enthusiast and PAARA member, flea market scrounger, horse-trader, mentor, confidant, and faithful sked keeper. When he passed away Sunday May 12 of cancer, my log showed that our final cross-country hf schedule had occurred only three months earlier.

Final sked ... impossible to imagine. Our radio adventures began one warm summer afternoon in the early 1970's, when PAARA was still using 2 meter AM and I, as a college freshman, had just finished a contact with another member. On came a booming loud signal from **W6NIR** (who lived two blocks away), operating a Heathkit Twoer, who seemed to know everything about me. Only after 45 minutes of my most puzzling QSO did **W6NIR** reveal himself as the father of my old kindergarten and grammar school buddy. He ceased to be "Mr. Wagstaffe" at that moment and became Gerry. The next years were filled with our frequent 2 meter QSO's, carpooling to the monthly PAARA meetings, and more importantly, our religious attendance at every Bay Area radio flea market.

At that time I began my four-year stint as PAARAgaphs editor. Coincidentally, I got wonderfully wry anonymous flea market reports sent to me, which I of course published. Old-time PAARA members may recall the infamous **Oakland Radio Club** swap meet report, which included a comment about a man of the cloth who was in attendance in case any of the very aged club's members needed his services during the event. Later, the same anonymous author submitted an even more infamous report on the "Happy Flyers" organization, a story that resulted in no more anonymous stories being published in PAARAgaphs! No one ever found out who that anonymous author was, including myself.

We had skeds even then. Gerry and I would rendezvous on 10 meters and he'd phone patch me all the way from Santa Clara University to Menlo Park, so my parents knew that all their tuition money was being spent wisely. When two meter FM became popular in the mid-70's, **Gerry, Gary WB6WNI**, and **Dave WA6AWZ** and I would all QSO from everywhere from San Francisco to Mount Hamilton.

It was a habit Gerry and I continued for the next twenty years, beginning when I moved from the Bay Area to the Boston area in 1976. We had schedules from the **Harvard Wireless Club (W1AF)**, **Boston College (W1PR)**, and **MIT (W1MX)** as my educational wanderings brought me from one college to the next. When I finally settled into a Boston home nearly ten years ago, I eagerly erected a large horizontal loop antenna, which was fed at one corner as a kind of quasi-rhombic, favoring the West Coast. Gerry roared in, nearly every weekend, always there with his Drake gear and the latest family and PAARA news, and still providing the occasional phone patch.

I've shared with Gerry many interests, including his fascination with early ship and aircraft hf communications (he



operated CW from Navy flying boats in the Pacific theater of World War II). We swapped literature on Amelia Earhart, Coast Guard operations, hf oceanic aircraft communications, and West Coast CW ship-to-shore sites. Though he was more of a researcher and less of an artifact acquirer, he would listen with great interest and amusement of my pre-war radio equipment deals and restorations. And I would listen even more intently to his ham radio exploits while a student at Santa Clara University (an alma mater we shared) and of his sometimes perilous WWII radio operations.

Ten years ago I had the chance to acquire a regenerative receiver nearly

identical to the one Gerry had begun his radio adventures with in the 1930's.

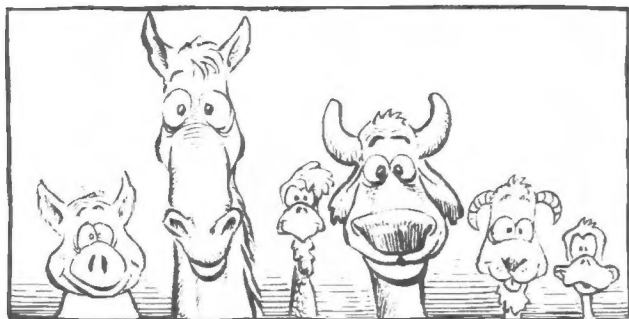
This 1929 Pilot "Super Wasp" was great fun to restore and operate, and I enjoyed it so much that I built a beautiful cherrywood cabinet for it. I was thrilled to show it and the rest of my station to Gerry when he and his wife Jean visited our home in the Boston area a few years ago. Likewise I endured many a wry jibe from Gerry when I showed him my "bamboo beam," a computer-optimized hf flattop wire beam antenna I built (of bamboo of course) and aimed West, specifically for cross-country 15 meter contacts with **W6NIR**.

Years later our mutual friend (and fellow PAARA member) **Paul Thekan N6FEG** arranged to ship Gerry's homebrew masterpiece to me: a 1937-vintage transmitter using a pair of push-pull 10's modulated by push-pull 46's. A massive black-wrinkle masonite contraption built by Gerry when he was in college, our last conversations brought back to him many memories of its construction details including cross-cuts on the tube bases (to lower their losses) and a flashlight battery to bias the carbon mike! And Gerry was tremendously amused when he learned, through Paul's bedside visits and my letters, that I had very recently obtained a 1940's-vintage Hallicrafters SX-28 "Super Skyrider" through a Byzantine trade that involved a cross-country frequent flyer trip, Paul, my brother, and even Paul's mother. And where did I get the idea to own an SX-28? Gerry had one from his postwar years through the decades following, mated with his wonderful 1937 homebrew transmitter. They'll be on the air again, and I know Gerry will be shaking his head over my key and microphone, arms set across his chest, pouring down his wry and warm thoughts.

Gerry leaves much more than that. As a mentor he helped steer my career from its academic wanderings to becoming a manager of high technology research and development. As a dearest friend he and I would act like a couple of schoolboys, noting down our weekly sked times and frequencies for months in advance. Among our happiest times were long visits in his radio shack when I came to the Bay Area, his beloved Drake equipment behind him ready for our next hf schedule. It's with great sadness that the logbook won't show any more contacts with **W6NIR**, but Gerry's is a presence and influence that will endure throughout my life. Rest in peace, dear friend Gerry.

Contributed by **Rick Ferranti, WA6NCX**

## Join us for pre-meeting eyeball QSO



**Guest Speaker:**  
**Ray Gaschk, KD6BLS**

## gab & gobble

6 pm— at Su Hong Restaurant  
1039 El Camino Real, Menlo Park

—across from Kepler's Book Store—



⇒ **Field Day Set Up** ⇐

**Friday**  
**June 21<sup>st</sup>**

**contact: Gerry Tucker, WA6LNV**  
**or Fred Canham, K6YT**

## PAARA Spring Picnic

**11 AM to 3 PM**  
**June 1, 1996**

The PAARA Annual Spring Picnic will be held, **Saturday, June 1**, at Ron (W6VG) and Helga Panton's house from 11 AM to 3 PM. The club will supply coffee, beer, cold drinks, charcoal, and a cold cut plate. Bring your own bar-b-que goods and something to share (optional). We will have door prizes extraordinaire.

**Friends and guests are welcome.**



# Picnic



**Here & There**

## PAARA PRIDE

wear your

## PAARA Badge

to

meetings, picnics, field days, winter parties, ham fests, flea markets,  
Pacifcons... (if you need one, contact Fred, K6YT)

